

CLAIMS

1. A method of producing an immune response in a mammal, comprising the step of:

administering to a mammal an admixture comprising an immunogen and a plant lectin, whereby the mammal produces an immune response to the immunogen which is greater relative to the immune response to the immunogen produced in the absence of the plant lectin.

2. ~~The method of claim 1 wherein the admixture is administered mucosally.~~

3. ~~The method of claim 2 wherein the admixture is administered intranasally.~~

4. The method of claim 1 wherein the plant lectin is selected from the group consisting of ML-1, ML-II, ML-III, WGA, and UEA-1.

5. The method of claim 1 wherein the mammal is selected from the group consisting of a dog, a cat, a mouse, a rat, a rabbit, a guinea pig, a chimpanzee, a baboon, and a human.

6. The method of claim 1 wherein the immune response is a T cell response.

7. The method of claim 6 wherein the T cell response is a Th2 response.

8. The method of claim 6 wherein the T cell response is proliferation of T cells.

9. The method of claim 1 wherein the immune response is an antibody response.

10. The method of claim 9 wherein the mammal produces an antibody which is selected from the group consisting of IgG and IgA antibodies.

11. The method of claim 10 wherein the IgG antibodies are selected from the group consisting of IgG1, IgG2a, and IgG2b.

12. The method of claim 10 wherein the antibodies are detectable in serum.

13. The method of claim 10 wherein the antibodies are detectable in a mucosal secretion.

14. The method of claim 13 wherein the mucosal secretion is obtained from a mucosa selected from the group consisting of gut mucosa, vaginal mucosa, oral mucosa, and nasal mucosa.

15. The method of claim 1 wherein the admixture comprises two or more lectins.

16. The method of claim 1 wherein the admixture comprises two or more immunogens.

17. The method of claim 1 wherein the immunogen is a protein of an infectious agent.

18. The method of claim 20 wherein the infectious agent is a virus.

19. The method of claim 21 wherein the immunogen is a glycoprotein D2 protein from a *Herpes simplex* virus type 2.

20. The method of claim 3 wherein the admixture is administered using a nasal spray.

21. The method of claim 3 wherein a drop of a liquid containing the admixture is administered.

5 22. The method of claim 1 wherein at least two doses of the admixture are administered.

23. The method of claim 1 wherein the admixture comprises an immunogen and a plant lectin in a ratio of at least about 1:1.

24. The method of claim 26 wherein the ratio is at least about 10:1.

10 25. The method of claim 9 wherein an antibody titer is measured using an ELISA.

26. The method of claim 1 wherein the admixture is administered by a method selected from the group consisting of oral administration, intranasal administration, intrarectal administration, vaginal administration, subcutaneous injection, intramuscular injection, transdermal injection, and transcutaneous injection.

15 27. The method of claim 1 wherein the plant lectin is a type 2 ribosome inactivating protein.

28. The method of claim 30 wherein the type 2 ribosome inactivating protein is selected from the group consisting of nigrin b, basic nigrin b, ebulin 1, ebulin r1, ebulin r, ebulin f, nigrin f, SNA1, SNA1, SNAV, SNAVI, Sambucus nigra SNLRP1, SNLRP2, ricin, Ricinus lectin, Polygonatum RIP, Sieboldin-6, abrin, abrin 11, modeccin, volkensin, SSA, Cinnamomin, porrectin, gelorin, Evanthis hyemalis, RIP, Iris agglutinin, ML-I, ML-II, and ML-III.

29. The method of claim 1 wherein the admixture is administered using a microparticle carrier.

25 30. The method of claim 1 wherein the admixture is administered in conjunction with a bioadhesive polymer.

31. The method of claim 1 wherein the admixture is in an enteric formulation.